

Abstract of the Invention

An optical amplification apparatus is provided comprising a plurality of fiber amplification media segments which are concatenated in series wherein subsequent to each
5 fiber amplification media segment one or more wavelengths is dropped so as to exploit a gain versus fiber amplification media physical length characteristic. By exploiting the gain versus fiber amplification media physical length characteristic in such a manner it is possible to achieve a substantially flat
10 gain response for a multi-wavelength output of the optical amplification apparatus. Some embodiments of the invention combine noise suppression and additional gain flattening on one or more wavelengths. Embodiments of the optical amplification apparatus can be used in red-band wavelength range applications
15 of coarse wavelength division multiplexing (CWDM). Some embodiments of the invention also provide that the optical amplification apparatus can be used as a hybrid dense wavelength division multiplexing (DWDM) and CWDM optical amplifier.